

# Head lice

## Keywords

- Insecticides
- Wet combing
- Terpenoids

**R**emarkably, these insignificant insects engender more consternation in the public mind than many important diseases. It has not helped that much misinformation about lice has worked its way into the communal body of knowledge. However, the principles of louse management are essentially straightforward, if not always simple to execute.

Nobody knows how prevalent lice are. Our surveys suggest prevalence amongst primary school-children ranged from below 2% to over 14% in different communities in the same district in the late 1990s. Some information is available from the RCGP sentinel scheme which shows a variation of numbers of consultations between 1994 and 1998, with a peak of 37 per 100,000 in September 1996 but a steep decline thereafter, so by the end of 1998 the level of 5.7 per 100,000 was similar to early 1994.<sup>1</sup>

### Detection of infection

Identification of an active louse infection can only be made if a live louse is found. The presence of louse eggs, whether embryonated or hatched, is not an indication of infestation since they persist on hairs for months after a successful treatment. The best way to find lice is using a plastic louse-detection comb, drawn through the hair several times. This should be done on hair that is dry or slightly dampened with water to reduce static. Combing wet hair after washing is not easy. Metal combs are not efficient for finding or removing lice.

### Treatment

There has been considerable discussion about the best way to treat head louse infection. Worries about insecticide safety have not been confirmed by scientific evidence, although controlled and limited exposure is only common sense, and a recent study showed that malathion was absorbed less than previously believed.<sup>1</sup> There is scientific evidence that insecticides are effective, limited mainly

by the poor quality of clinical trials.<sup>2</sup> Superficially-attractive claims for safety and efficacy of alternative therapies have not been confirmed and no controlled study has been published to demonstrate effectiveness of herbal or combing treatments.<sup>2</sup> Only one study has compared insecticide with a mechanical method, finding that malathion treatment was twice as effective as wet combing with conditioner.<sup>3</sup>

Most people are not good at detecting lice in the early stages of an infection. Unless you use a detection comb regularly you are unlikely to find the odd louse, and the population is normally quite large before they are identified. As more families rely on brushes for grooming, knowing how to hold and use a comb properly has diminished in the community, so they have difficulty combing, for detection or treatment. I recently came across a hairdresser who claimed to comb the lice from her child regularly, but we were able to remove over 250 insects in about 10min.

Using the right product is important because insecticide resistance in lice affects about 30% of cases. Alcoholic lotions containing terpenoids are more effective than other products. The most effective aqueous product is carbaryl 1.0%. However, for all products a course of treatment is two applications one week apart, the second being to kill any lice emerging from eggs not killed the first time. If lice persist after two applications, a different active or a different method (eg mechanical) should be employed next time. ■

### Likely developments over the next five years

- Introduction of properly evaluated new insecticide products for head louse treatment.
- Introduction of properly evaluated and licensed non-insecticide products for treatment.
- Disappearance of many of the unlicensed products making claims of efficacy.
- A better understanding of the epidemiology of head louse infection.

## Nursing in Primary Care: Head lice

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### USEFUL ORGANISATIONS

- Medical Entomology  
Centre  
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- Community Hygiene  
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Helpline: 020-8341 7167  
Website: www.nits.net  
(provides information and  
'Bug Buster' kits)

### REFERENCES

1. Dennis GA and Lee PN; "A phase-I volunteer study to establish the degree of absorption and effect on cholinesterase activity of four head lice preparations containing malathion". *Clinical Drug Investigations*, 1999; 18:105-115.
2. Dodd CS; *Interventions for treating head lice in The Cochrane Library*, issue 2. Oxford, Update Software, 1999.
3. Roberts RJ, Casey D, Morgan DA and Petrovic M; "Pragmatic randomised-controlled trial comparing 'bug busting' with malathion for the treatment of head lice in the UK". *Lancet* (in press).

